

IN THE CLAIMS:

- 1 1. (Canceled)
- 1 2. (Currently Amended): The method of claim 63, wherein the backup storage time is
2 based on one or more of: an actual time, a time interval, and an event.
- 1 3-9. (Canceled)
- 1 10. (Previously Presented) The method of claim 61, wherein storing the contents includes:
2 selecting at least one memory to store the contents.
- 1 11. (Currently Amended) The method of claim 10, wherein selecting at least one memory
2 includes:
3 selecting the at least one memory to be distinct from a previously selected memory
4 associated with a prior backup storage time.
- 1 12. (Canceled)
- 1 13. (Currently Amended) The method of claim 63, wherein providing the associations
2 includes:
3 generating one or more indexes to associate: the stored contents, the respective
4 backup storage times, the respective changed locations, and one or more respective file
5 identifiers.
- 1 14. (Original) The method of claim 13, wherein the one or more indexes include:
2 a first index to the changed locations based on the one or more file identifiers, and
3 a second index to the stored contents based on the changed locations.

1 15. (Previously Presented) The method of claim 61, further comprising:
2 using the stored contents to create a version of a selected one of the one or more data
3 files.

1 16. (Currently Amended) The method of claim 15, wherein using the stored contents to
2 create a version includes:
3 for each of one or more backup storage times associated with the version: querying
4 one or more indexes that associate the stored contents, the respective backup storage times,
5 the respective changed locations, and one or more respective file identifiers, to identify
6 stored contents and respective changed locations associated with the selected data file, and
7 combining the identified stored contents with data from a baseline image associated
8 with the selected data file.

1 17. (Currently Amended) The method of claim 16, wherein querying includes:
2 determining that the changed locations are the same for two or more different backup
3 storage times, and,
4 identifying the stored contents of the changed locations associated with the latest of
5 the two or more different backup storage times.

1 18. (Currently Amended) The method of claim 63, further comprising:
2 receiving from a first server a request to create a version of a selected one of the one
3 or more data files, and
4 based on the request:
5 for each of one or more backup storage times associated with the version:
6 querying one or more indexes that associate the stored contents, the respective backup
7 storage times, the respective changed locations, and one or more respective file identifiers,
8 to identify stored contents and respective changed locations associated with the selected data
9 file, and
10 providing the identified stored contents and respective changed locations to
11 the first server.

1 19. (Original) The method of claim 18, further comprising:
2 at the first server, combining the identified stored contents with data from a baseline
3 image associated with the selected data file.

1 20. (Currently Amended) The method of claim 63, further comprising:
2 at a coalescence time, coalescing:
3 two or more stored contents associated with the same file and two or more
4 different backup storage times,
5 the respective changed locations associated with the two or more coalesced
6 contents, and
7 one or more indexes to associate the coalesced contents, the respective
8 coalesced changed locations, an identifier of the file with which those contents are
9 associated, and the latest of the two or more different backup storage times.

1 21. (Currently Amended) The method of claim 63, further comprising:
2 at a coalescence time, coalescing:
3 two or more stored contents associated with the same file and the same
4 backup storage time,
5 the respective changed locations associated with the two or more coalesced
6 contents, and
7 one or more indexes to associate the coalesced contents, the respective
8 coalesced changed locations, an identifier of the file with which those contents are
9 associated, and the same backup storage time.

1 22. (Original) The method of claim 21, wherein the coalescence time is based on one or
2 more of: an actual time, a time interval, and an event.

1 23. (Original) The method of claim 22, wherein the event includes an event based on an
2 available storage capacity of a storage medium.

1 24-37. (Canceled)

1 38. (Currently Amended) The storage medium of claim 66, wherein the backup storage
2 time is based on one or more of: an actual time, a time interval, and an event.

1 39. (Canceled)

1 40. (Previously Presented) The storage medium of claim 64, wherein the instructions to
2 store the contents include instructions to select at least one memory to store the contents.

1 41. (Currently Amended) The storage medium of claim 40, wherein the instructions to
2 select at least one memory include instructions to select the at least one memory to be
3 distinct from a previously selected memory associated with a prior backup storage time.

1 42. (Canceled)

1 43. (Currently Amended) The storage medium of claim 66, wherein the instructions to
2 provide the associations include instructions to generate one or more indexes to associate:
3 the stored contents, the respective backup storage times, the respective changed locations,
4 and one or more respective file identifiers.

1 44. (Previously Presented) The storage medium of claim 43, wherein the one or more
2 indexes include:
3 a first index to the changed locations based on the one or more file identifiers, and
4 a second index to the stored contents based on the changed locations.

1 45. (Previously Presented) The storage medium of claim 64, further comprising
2 instructions to use the stored contents to create a version of a selected one of the one or more
3 data files.

1 46. (Currently Amended) The storage medium of claim 45, wherein the instructions to use
2 the stored contents to create a version include instructions to:

3 for each of one or more backup storage times associated with the version: query one
4 or more indexes that associate the stored contents, the respective backup storage times, the
5 respective changed locations, and one or more respective file identifiers, to identify stored
6 contents and respective changed locations associated with the selected data file, and

7 combine the identified stored contents with data from a baseline image associated
8 with the selected data file.

1 47. (Currently Amended) The storage medium of claim 64, further comprising instructions
2 to receive from a first server a request to create a version of a selected one of the one or
3 more data files, and

4 based on the request:

5 for each of one or more backup storage times associated with the version:
6 query one or more indexes that associate the stored contents, the respective backup storage
7 times, the respective changed locations, and one or more respective file identifiers, to
8 identify stored contents and respective changed locations associated the selected data file,
9 and

10 provide the identified stored contents and respective changed locations to the
11 first server.

1 48. (Previously Presented) The storage medium of claim 47, further comprising
2 instructions to, at the first server, combine the identified stored contents with data from a
3 baseline image associated with the selected data file.

1 49. (Canceled)

1 50. (Currently Amended) The system of claim 69, wherein the backup storage time is
2 based on one or more of: an actual time, a time interval, and an event.

1 51. (Canceled)

1 52. (Previously Presented) The system of claim 67, wherein at least one said agent selects
2 at least one memory to store the contents.

1 53. (Currently Amended) The system of claim 52, wherein at least one said memory
2 selected by at least one said agent is distinct from a previously selected memory associated
3 with a prior backup storage time.

1 54. (Canceled)

1 55. (Currently Amended) The system of claim 69, wherein at least one said agent provides
2 the associations by generating one or more indexes to associate: the stored contents, the
3 respective backup storage times, the respective changed locations, and one or more
4 respective file identifiers.

1 56. (Original) The system of claim 55, wherein the one or more indexes include:
2 a first index to the changed locations based on the one or more file identifiers, and
3 a second index to the stored contents based on the changed locations.

1 57. (Previously Presented) The system of claim 69, further configured to use the stored
2 contents to create a version of a selected one of the one or more data files.

1 58. (Currently Amended) The system of claim 57, wherein the system is configured to use
2 the stored contents to create a version include processor instructions by:
3 for each of one or more backup storage times associated with the version: querying
4 one or more indexes that associate the stored contents, the respective backup storage times,
5 the respective changed locations, and one or more file respective identifiers, to identify
6 stored contents and respective changed locations associated with the selected data file, and

7 combine the identified stored contents with data from a baseline image associated
8 with the selected data file.

1 59. (Currently Amended) The system of claim 69, further ~~further~~ configured to receive
2 from a first server a request to create a version of a selected one of the one or more data
3 files, and

4 based on the request:

5 for each of one or more backup storage times associated with the version:
6 query one or more indexes that associate the stored contents, the respective backup storage
7 times, the respective changed locations, and one or more respective file identifiers, to
8 identify stored contents and respective changed locations associated the selected data file,
9 and

10 provide the identified stored contents and respective changed locations to the
11 first server.

1 60. (Previously Presented) The system of claim 59, further configured to, at the first
2 server, combine the identified stored contents with data from a baseline image associated
3 with the selected data file.

1 61. (Currently Amended) For maintaining in a backup storage system information from
2 which a set of source files stored on a source storage system can be restored, a method that
3 includes, for each of a sequence of backup storage times:

4 A) dynamically identifying locations in the source storage system where changes
5 have been made since the previous backup storage time; and

6 B) in response to thus identifying locations, ~~storing in the backup storage~~
7 ~~system:~~

8 i) ~~reading contents that at that backup storage time contents that occupy~~
9 locations thus identified;

10 ii) sending such contents to the backup storage system; and

11 ~~ii)iii)~~ storing those contents in the backup system together with associations
12 of those contents with those locations.

1 62. (Previously Presented) A method as defined in claim 61 wherein the associations of
2 the contents with the locations associate the contents with the files in the source storage
3 system to which those contents were written.

1 63. (Previously Presented) A method as defined in claim 62 further including providing in
2 the backup storage system associations between the contents there stored and the storage
3 times for which those contents were stored.

1 64. (Currently Amended) For configuring a computer system that includes a source
2 storage system and a backup storage system to maintain in the backup storage system
3 information from which a set of source files stored on the source storage system can be
4 restored, a storage medium containing instructions readable by the computer system to
5 configure the computer system to, for each of a sequence of backup storage times:

6 A) dynamically identify locations in the source storage system where changes
7 have been made since the previous backup storage time; and

8 B) in response to thus identifying locations, ~~store in the backup storage system:~~

9 i) ~~reading contents that at that backup storage time~~ contents that occupy
10 locations thus identified;

11 ii) sending such contents to the backup storage system; and

12 ~~ii)iii)~~ storing those contents in the backup system together with associations
13 of those contents with those locations.

1 65. (Previously Presented) A storage medium as defined in claim 64 wherein the
2 associations of the contents with the locations associate the contents with the files in the
3 source storage system to which those contents were written.

1 66. (Currently Amended) A storage medium as defined in claim 65 wherein the
2 instructions further configure the computer system to provide in the backup storage system
3 associations between the contents there stored and the backup storage times for which those
4 contents were stored.

1 67. (Currently Amended) A computer system that includes a source storage system and a
2 backup storage system and, to maintain in the backup storage system information from
3 which a set of source files stored on the source storage system can be restored, is configured
4 for execution thereon of agents that together, for each of a sequence of backup storage
5 times:

6 A) dynamically identify locations in the source storage system where changes
7 have been made since the previous backup storage time; and

8 B) in response to thus identifying locations, ~~store in the backup storage system:~~

9 i) ~~reading contents that~~ at that backup storage time contents that occupy
10 locations thus identified;

11 ii) sending such contents to the backup storage system; and

12 ~~iii)~~ storing those contents in the backup system together with associations
13 of those contents with those locations.

1 68. (Previously Presented) A system as defined in claim 67 wherein the associations of the
2 contents with the locations associate the contents with the files in the source storage system
3 to which those contents were written.

1 69. (Currently Amended) A system as defined in claim 68 wherein at least one said agent
2 provides in the backup storage system associations between the contents there stored and the
3 backup storage times for which those contents were stored.